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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/625,201	07/21/2000	Natividadel Lobo	367.38796X00	5615

7590 11/17/2004  
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EXAMINER
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BURD, KEVIN MICHAEL

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 09/625,201	<b>Applicant(s)</b> LOBO, NATIVIDADEL	
	<b>Examiner</b> Kevin M. Burd	<b>Art Unit</b> 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. This office action, in response to the amendment filed 8/11/2004, is a non-final office action.

***Response to Amendment***

2. The objection to Priority has been withdrawn.
3. The objections of claims 11 and 13 are withdrawn.
4. The drawings were received on 8/11/2004. These drawings are approved.
5. The previous objection to the oath is withdrawn in view of the submission of the new oath on 8/11/2004.
6. The previous rejection of claims 29-31 under 35 USC 112, second paragraph is withdrawn.
7. Applicant's arguments with respect to the rejections of claims 1-33 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made in view of Jeckeln et al (US 6,072,364).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-5 and 8-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Jeckeln et al (US 6,072,364).

Regarding claim 1, Jeckeln discloses a method of defining a relationship between frequency and amplitude of a pulse function for acting on a data stream as shown in figure 1. A pulse stream is shaped by the pulse-shaping filter 16 and the output of the filter is then distorted by pre-distorter 2. The pre-distortion is determined from "cost parameters" or distortions created prior to the transmitting of the signal after amplification in power amplifier 13 of figure 1. Examples of this distortion are amplitude and phase distortions generated when digital modulation is used (column 5, lines 19-23). Therefore, the amplitude and phase will be defined over some range to allow for compensate of distortions.

Regarding claim 2, the power amplifier become non-linear at saturation (column 5, lines 19-23).

Regarding claims 3-5, 8 and 9, different distortions will occur in the transmitter such as distortion form the A/D and from the power amplifier and each will be weighted depending on their individual impact on the signal.

Regarding claims 10-12 and 19-24, Jeckeln discloses a method of defining a relationship between frequency and amplitude of a pulse function for acting on a data stream as shown in figure 1. A pulse stream is shaped by the pulse-shaping filter 16 and the output of the filter is then distorted by pre-distorter 2. The pre-distortion is

determined from "cost parameters" or distortions created prior to the transmitting of the signal after amplification in power amplifier 13 of figure 1. Examples of this distortion are amplitude and phase distortions generated when digital modulation is used (column 5, lines 19-23). Therefore, the amplitude and phase will be defined over some range to allow for compensate of distortions. Different distortions will occur in the transmitter such as distortion from the A/D and from the power amplifier and each will be weighted depending on their individual impact on the signal.

Regarding claim 13, Jeckeln discloses the distortions may degrade the BER performance in the modulation scheme (column 5, lines 23-27).

Regarding claims 14-18, 26 and 27, Jeckeln discloses the communication system is an RF communication system.

Regarding claim 25, the pulses are shaped in the pulse-shaping filter 16 and further shaped by the pre-distorter 2 using look up tables 3 and 4 (column 4, lines 61-65).

Regarding claims 28-33, Jeckeln discloses a communication system for defining a relationship between frequency and amplitude of a pulse function for acting on a data stream as shown in figure 1. A pulse stream is shaped by the pulse-shaping filter 16 and the output of the filter is then distorted by pre-distorter 2. The pre-distortion is determined from "cost parameters" or distortions created prior to the transmitting of the signal after amplification in power amplifier 13 of figure 1. Examples of this distortion are amplitude and phase distortions generated when digital modulation is used (column 5, lines 19-23). Therefore, the amplitude and phase will be defined over some range to

allow for compensate of distortions. Different distortions will occur in the transmitter such as distortion from the A/D and from the power amplifier and each will be weighted depending on their individual impact on the signal. Jeckeln discloses the communication system is an RF communication system.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeckeln et al (US 6,072,364) in view of Summers (US 5,070,254).

Regarding claims 6 and 7, Jeckeln discloses a method of defining a relationship between frequency and amplitude of a pulse function for acting on a data stream as stated above in paragraph 8. Jeckeln does not disclose compensating for a reconstruction filter. Reconstructive filters are useful for shaping filters to correct a pulse signal. Pulses encounter interference that can cause pulse shape and resolution to be degraded. However, the use of these filters can cause distortion in the signal as well. Summers discloses, it is well known to use pre-distortion to compensate for the distortion produced in a reconstruction filter (column 4, lines 40-42). It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the teachings of Summers to use a reconstruction filter and to then compensate for the

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distortion caused by said filter in the system and method of Jeckeln for the reasons stated above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Thursday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin M. Burd  
11/6/2004

**KEVIN BURD  
PATENT EXAMINER**